



Application No. 10/665,687
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
David M. Skinlo) Group No.: 1745
Serial No.: 10/665,687) Examiner: Hodge, Rol
Filed: September 17, 2003) Docket No. Q137US6

For: ELECTRIC STORAGE BATTERY CONSTRUCTION AND METHOD OF
MANUFACTURE

CERTIFICATION UNDER 37 CFR § 1.8

I hereby certify that the documents referred to as enclosed herein are being deposited with the United States Postal Service as first class mail on this date 9/6/11, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231

MS Appeal Brief-Patents
Commissioner for Patents
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Signature

REPLY BRIEF TO EXAMINER'S ANSWER

This is a Reply to the Examiner's Answer mailed on July 6, 2011. The time for submission of this Reply Brief is determined by 37CFR41.41(a)(1). This section of the CFR provides the Applicant with two months from the date of the Examiner's Answer to submit a Reply Brief. As a result, the due date for this Reply Brief is Tuesday September 6, 2011 and this Reply Brief is timely filed.

The following Remarks are organized using the same headings used in the Applicant's Appeals Brief. Additionally, the headings are presented in the same order as was used in the Appeals Brief.

REMARKS

1. Claims 43-45, 67, 83, and 85-88 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,399,242 (Kitoh) in view of U.S. Patent No. 3,159,508 (Chreitzberg).

CLAIM 43

1. Correction of Record

The Applicant's Appeal Brief states that the Applicant is not arguing unexpected results. In fact, an entire paragraph in the Appeals Brief (P8, L17-29) is directed to stating that the Applicant is not arguing unexpected results. Despite this, the Examiner's Answer continues to address an unexpected results argument. For instance, see the following citations can be found in the Examiner's Answer:

“supposed unexpected results” at actual page 17 (erroneously labeled pg. 4, line 9);

“unexpected results” at actual page 17 (erroneously labeled pg. 4, line 11-12); and

“unexpected results” at actual page 18 (erroneously labeled pg. 5, line 11).

Why is the Applicant's argument continuing to be mischaracterized despite the Appeals Brief outright stating that this is not the argument being made?

2. The Applicant has not merely rearranged parts

The Examiner's Answer states that “appellants go to great lengths to state that their instant invention is not a mere design choice.” This argument is being presented because it is a direct response to the law upon which the rejection is based. For instance, the rejection both currently and previously cites “In re. Japiske” for support. For instance, see page 8, line 14 of the Examiner's Answer.

As previously noted, this case is cited in MPEP 2144.04(VI)(C) which is directed to rejections based on design choice and/or mere rearrangements of parts.

Accordingly, the Applicant's discussion of design choice directly addresses the pending rejection.

First Reason MPEP(VI)(C) is not properly applied

There is no additional discussion of this issue at this time.

Second Reason MPEP(VI)(C) is not properly applied

The Applicant's Appeals Brief noted that in order for the law in MPEP 2144.04(VI)(C) to apply, there must a basis in the cited art for making the proposed modification. The Appeals Brief argued that the cited art contains no motivation for making the proposed modification. The Examiner's Answer again states that the motivation for making the proposed modification is "reducing internal resistance or improving current extraction" (called "the cited advantages" below). The Examiner's Answer states the motivation is found at C2, L22 and C5, L39-40 of Kitoh. The problem with this argument is that these sections of Kitoh do not teach that the cited advantages come from the proposed modification but instead come from other features of Kitoh's battery.

To see this, compare the proposed modification with Kitoh's teachings regarding how the cited advantage can be achieved. The citation at Kitoh's C2, L22 shows that internal resistance can be reduced by placing terminals one opposing ends of the battery. With regard to the second citation, if we start reading at Kitoh's C5, L30, we find that this citation provides essentially the same teaching but adds some teachings regarding "current extraction." Accordingly, the cited advantages can be achieved by placement of terminals at opposing ends

of the battery. In contrast, the proposed modification is “attach(ing) the ...tabs of Kitoh only at a second location past the center point.” Kitoh can not possibly indicate that the cited advantages can be achieved by attaching Kitoh’s tabs only at the second location because Kitoh teaches that they result from placing terminals at opposing battery ends. As a result, it remains true that the cited art contains no motivation for making the proposed modification.

Further, the cited art teaches that the proposed modification would **ACTUALLY INCREASE** internal resistance. This teaching is in direct contrast to the stated motivation. For instance, the proposed modification would lengthen the distance that at least a portion of Kitoh’s tabs travel before being connected to the cap. Kitano provides substantial commentary on how this modification affects internal resistance. For instance, Kitano states the following at C7, L67- C8, L6:

...the (tab)... **can be shortened in a distance between the second weld portion and the positive current collector 4 to decrease internal resistance** of the storage battery.

This statement teaches that reducing the distance that the tab (called “current collecting plate 6” in Kitano) travels before being attached to the cap reduces the internal resistance.

Kitano provides an experimental evidence to back up this idea. For instance, Kitano provides the following:

A comparative nickel-cadmium storage battery was manufactured by the same assembly process as in the (batteries according to the present invention).... without welding the positive current collecting plate 6 to the bottom surface of cover plate 8 at the second weld portion B. ... (parenthesis added by Applicant)

A review of Kitano’s Figure 4 shows that this means the tabs in Kitano’s “comparative batteries” travel a longer distance before being attached to the cap

than do the tabs in Kitano's "batteries according to the present invention." Kitano then compares the results of the "comparative batteries" and the "batteries according to the present invention" as follows:

After discharge, each **internal resistance** of the storage batteries was measured. As a result of the measurement, it has been confirmed that each **internal resistance** of the storage batteries "according to the present invention" becomes lower by about $0.5 \text{ m}\Omega$ than that of the "comparative ... batteries." Due to the decrease of the **internal resistance**, as shown in FIG. 5, the operating voltage of the nickel-cadmium storage battery according to the present invention is maintained at a higher level than that of the "comparative battery" particularly under discharge of a great current. The useful results can be obtained by enhancement of the current collectivity at the welded portions of the positive current collecting plate 6. (Quotations added by Applicant in order to provide consistent terminology.)

These experimental results also show that increasing the distance that the tab travels before being attached to the cap actually increases the internal resistance of the battery.

The proposed modification results in increasing the distance that at least a portion of Kitoh's tab travel before being attached to the cap. However, Kitano teaches that this increases the internal resistance of the battery. As a result, the cited art teaches that the proposed modification would actually increase the internal resistance of the battery.

Since the cited art contains no motivation for making the proposed modification and teaches that the proposed modification would increase internal resistance of a battery, it remains true that the cited art contains no motivation for making the proposed modification.

3. There Is No Motivation to Make the Proposed Modification

The Examiner's Answer does not call out a response to the argument that was previously presented under this heading. As a result, the Applicant believes that the argument presented to address the argument under the heading “*Second Reason MPEP(VI)(C) is not properly applied*” is intended to address this argument as well. As a result, the Reply presented above under the heading “*Second Reason MPEP(VI)(C) is not properly applied*” also applies here.

4. The Cited Art Does Not Teach or Suggest Every Limitation of the Claims

The Applicant believes no additional argument is necessary under this heading.

2. Claims 43-45, 67, 83, and 85-89 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,399,242 (Kitoh) in view of U.S. Patent No. 5,912,089 (Kitano).

CLAIM 43

In the Appeals Brief, the Applicant argued that in Kitano's final battery, the tab is welded to the end cap between the case and the centerpoint of the cap (i.e. at the location labeled “B” in Figure 4). The Examiner's Answer relies on the idea that Kitano has no such teaching. In fact, the Examiner's Answer states that the Applicant merely infers this connection.

The Examiner's argument relies on text and images directed to the assembly of the battery rather than on teachings regarding Kitano's completed battery. For instance, the Examiner relies heavily on Kitano's Figure 3. However, Kitano's Figure 3 is directed to battery assembly as shown by Kitano's statement that “**During assembly process ... as shown in FIGS. 2 and 3**” (C3,

L30-31). Likewise, the paragraph quoted at page 15 of the Examiner's Answer describes only battery assembly. However, relying solely on these portions of Kitano's disclosure **ignores the rest of the disclosed assembly method**. In particular, the Examiner's argument ignores the disclosure at Kitano's C7, L65-C8, L3 which is discussed 2 paragraphs below.

Before proceeding to discussing Kitano's complete assembly method, it is important to understand that there is no inference needed to see that Kitano's final battery has a tab welded to the end cap between the case and the centerpoint of the cap. In fact, Kitano OUTRIGHT STATES that the completed battery has the weld at issue and calls it the "second weld portion." For instance, Kitano provides that:

In the **assembled storage battery** ... the positive current collecting plate 6 is welded to the bottom surface of cover plate 8 at the second weld portion B as shown in FIGS. 1 and 4. (See C3, L30.)

As if that is not enough, Kitano credits the success of his battery to this second weld portion when stating that:

The useful result is obtained by the fact that the positive current collecting plate 6 is welded to the bottom surface of cover plate 8 at the second weld portion B. (see C4, L48-50)

Other places where Kitano STATES that the completed battery has the second weld portion include C5, L48-50; C5, L65-67, and C7, L4-7. Accordingly, Kitano OUTRIGHT STATES that the completed battery has a weld between the case and the centerpoint.

Importantly, the formation of the second weld portion B is part of the assembly process as shown by the following statement from Kitano's C7, L65-C8, L3:

With the **manufacturing method** of the alkaline storage battery according to the present invention, the (tab) ... is welded at the engaged portion with the cover plate 8 after the closure cap assembly 7 has been coupled with the cell casing 5 of the storage battery.

This is an affirmative statement that the weld at the second weld portion is part of the “manufacturing process.” **Additionally, this is the portion of the assembly method ignored in the Examiner’s Answer.** Since the weld at the second weld portion is part of the manufacturing process, this weld is present in the completed battery.

Additionally, it appears the Examiner is relying on the idea that Kitano’s final battery has the tab connected to the cap only at the location labeled A but not the location labeled B in Figure 4. However, this would be an odd argument because Kitano teaches that such an arrangement is undesirable. Kitano calls this arrangement a “comparative battery” and compares the performance of these “comparative batteries” to Kitano’s inventive batteries as follows:

A comparative nickel-cadmium storage battery was manufactured by the same assembly process as in the foregoing embodiment **without welding the positive current collecting plate 6 to the bottom surface of cover plate 8 at the second weld portion B.** Vibration tests ... were carried out...

From the table 1, it will be understood that the vibration resistance property of the nickel-cadmium storage battery according to the present invention is enhanced when compared with the comparative storage batteries. **The useful result is obtained by the fact that the positive current collecting plate 6 is welded to the bottom surface of cover plate 8 at the second weld portion B. (See C4, L29-50)**

Not only does Kitano teach that vibration is a problem for the comparative batteries but Kitano

Kitano goes even further and teaches that this arrangement increases internal resistance (see C4, L63-65). Further, Kitano's Background states the following about connecting the tab only to location A:

In the conventional alkaline storage battery, however, the current collecting plate is welded only at one portion to the bottom surface of the closure cap assembly. For this reason, the vibration resistance property of the storage battery is insufficient, and the internal resistance of the storage battery may not be reduced.

Accordingly, Kitano teaches away from the arrangement upon which the Examiner's Answer is relying.

Claim 43 includes a tab that is immobilized relative to an end cap at a location that is past the centerpoint from the case but that is not immobilized between the case and the location. The pending rejection relies on Kitano for this teaching. However, as noted above, Kitano provides no such teaching.

Respectfully submitted,



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